Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for the production of a plurality of optoelectronic semiconductor chips each having a plurality of structural elements with each structural element comprising a semiconductor layer sequence, the method comprising the steps of:

providing a chip composite base comprising a substrate and a growth surface;

forming on the growth surface a mask material layer with a multiplicity of windows, most of which have an average lateral extent of less than or equal to 1 μm, wherein a mask material is chosen so that a semiconductor material of the semiconductor layer sequence that is to be grown in a later method step essentially cannot grow on said mask material or can grow in a substantially worse manner in comparison with the growth surface, and wherein the windows of the mask material layer comprise a plurality of statistically distributed windows having varying forms and opening areas;

essentially simultaneously growing semiconductor layers to form the structural elements on regions of the growth surface that lie within the windows; and

singulating the chip composite base with applied material to form semiconductor chips each having a plurality of the structural elements;

wherein, after the growth of the semiconductor layers, a layer of electrically conductive contact material that is transmissive to an electromagnetic radiation emitted by the active zone is applied to the semiconductor layers, so that the semiconductor layers of a plurality of the structural elements are electrically conductively connected to one another by the contact material.

2. (Previously Presented) The method as claimed in claim 1, wherein the chip composite base has at least one semiconductor layer grown epitaxially onto the substrate and the growth surface is a surface on that side of the epitaxially grown semiconductor layer which is remote from the substrate.

3. (Previously Presented) The method as claimed in claim 1, wherein the chip composite base has a semiconductor layer sequence grown epitaxially onto the substrate with an active zone that emits electromagnetic radiation, and the growth surface is a surface on that side of the semiconductor layer sequence which is remote from the substrate.

4. (Previously Presented) The method as claimed in claim 1, wherein the structural elements respectively have an epitaxially grown semiconductor layer sequence with an active zone that emits electromagnetic radiation.

5. (Previously Presented) The method as claimed in claim 1, wherein the mask material has SiO_2, Si_xN_y or Al_2O_3.

6. (Cancelled).

7. (Previously Presented) The method as claimed in claim 1, wherein the average thickness of the mask material layer is less than the cumulated thickness of the semiconductor layers of a structural element.

8. (Previously Presented) The method as claimed in claim 1, wherein the mask material layer is at least partly removed after the growth of the semiconductor layers.

9. (Previously Presented) The method as claimed in claim 1, wherein, after the growth of the semiconductor layers, a planarization layer is applied over the growth surface.

10. (Previously Presented) The method as claimed in claim 9, wherein a material whose refractive index is lower than that of the semiconductor layers is chosen for the planarization layer.

11. (Previously Presented) The method as claimed in claim 9, wherein a dielectric material is chosen for the planarization layer.

12. (Previously Presented) The method as claimed in claim 1, wherein the growth conditions for the growth of the semiconductor layers are at least one of set and varied during growth in such a way that semiconductor layers of the structural elements form a lens-shaped form, a truncated cone-shaped form, or a polyhedral form.

13. (Previously Presented) The method as claimed in claim 1, wherein the semiconductor layers are grown by means of metal organic vapor phase epitaxy.

14. (Previously Presented) An optoelectronic semiconductor chip produced according to a method as claimed in claim 1.

15. (Cancelled).

16. (New) The method as claimed in claim 1, wherein the mask material layer is grown on the growth surface.

17. (New) The method as claimed in claim 16, wherein the mask material layer is grown in situ in a non-closed layer including the multiplicity of windows.

18. (New) The method as claimed in claim 16, wherein the mask material layer is grown in a closed layer and wherein the multiplicity of windows are subsequently formed in the closed layer.